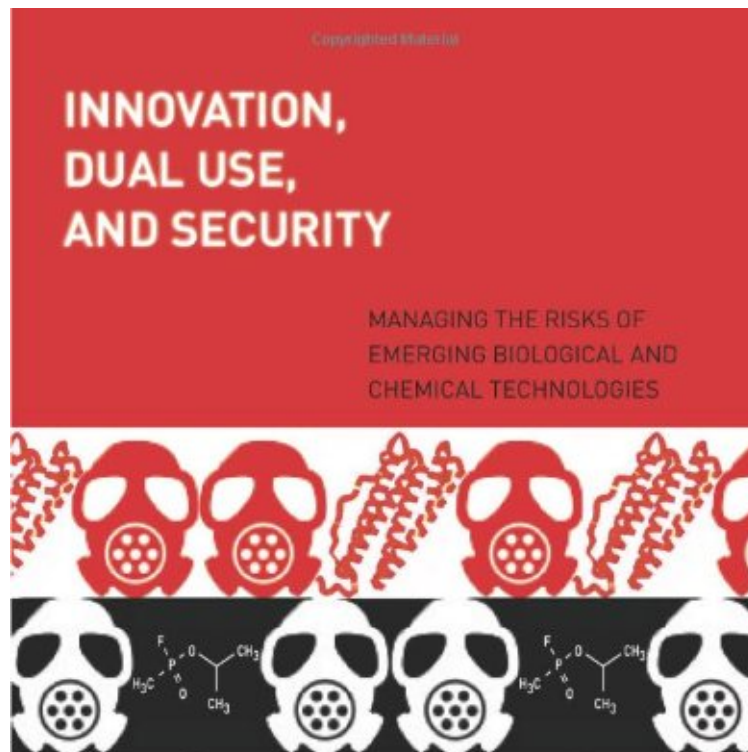


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Innovation, Dual Use, and Security: Managing the Risks of Emerging Biological and Chemical Technologies (MIT Press)

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0 of 0 people found the following review helpful. Great source of information By Richard Rupert Jonathan Tuck is well known by many in field of non-proliferation. This book is a must for those working in the field of consequence management or those just interested in the field of study.

A framework for assessing the security risks of emerging dual-use technologies and devising tailored governance strategies is proposed and applied to contemporary case studies. Recent advances in disciplines such as biotechnology, nanotechnology, and neuropharmacology entail a "dual-use dilemma" because they promise benefits for human health and welfare yet pose the risk of misuse for hostile purposes. The emerging field of synthetic genomics, for example, can produce custom DNA molecules for life-saving drugs but also makes possible the creation of deadly viral agents for biological warfare or terrorism. The challenge for policymakers is to prevent the misuse of these new technologies without forgoing their benefits. Innovation, Dual Use, and Security offers a systematic approach for managing the dual-use dilemma. The book presents a "decision framework" for assessing the security risks of emerging technologies and fashioning governance strategies to manage those risks. This framework is applied to fourteen contemporary case studies, including synthetic genomics, DNA shuffling and directed evolution, combinatorial chemistry, protein engineering, immunological modulation, and aerosol vaccines. The book also draws useful lessons from two historical cases: the development of the V-series nerve agents in Britain and the use and misuse of LSD by the U.S. Army and the CIA. Innovation, Dual Use, and Security offers a comprehensive, multifaceted introduction to the challenges of governing dual-use technologies in an era of rapid innovation. The book will be of interest to government officials and other practitioners as well as to students and scholars in security studies, science and technology studies, biology, and chemistry.

Jonathan Tucker does a remarkable job bringing a unified approach to this multi-author book. Scholars of biosecurity and biosafety, members of institutional review boards, and national and international agencies will find this volume indispensable. (Harvey Rubin, Director, Institute for Strategic Threat Analysis and Response (ISTAR), University of Pennsylvania) Innovation, Dual Use, and Security is a fitting memorial to Jonathan Tucker, an international authority on curbing chemical and biological weapons. Most writing on security aspects of emerging technologies is marred by gross generalizations on boons and banes. In contrast, this book is an exercise in rigorous differentiation. It offers lucid takes on the benefits and dangers of fourteen variants of biotechnology and provides pragmatic advice on reducing risks of malicious misuse. (Kenneth A. Oye, Director of the MIT Program on Emerging Technologies) This excellent book not only offers fresh and comprehensive views but does so with a consistency that is rare in multi-author efforts. It's hard to think of a more timely or authoritative volume at a time when global risk is as high as it has been for a generation, and clear analysis, solid understanding, and creative perspectives are at a premium. Here's a baseline for our thinking about what comes next. (Nigel Cameron, President and CEO, Center for Policy on Emerging Technologies) The book gives an excellent comprehensive analysis of the dual-use dilemma for technologies that have not only beneficial uses but also the potential to cause serious harm. It is a valuable resource for bioethics or biotechnology courses and should surely generate great class discussions. (Choice) Innovation, Dual Use, and Security was brought to completion under extraordinary circumstances. Quibbles aside, it is stuffed with fascinating information interpreted by people who know their chosen subjects. It is well written, well edited, and even well copy edited. I have seen no better book on this subject. (Robert Hunt Sprinkle BioScience) About the Author The late Jonathan B. Tucker was a Senior Fellow at the Federation of American Scientists. He was the editor of Toxic Terror: Assessing Terrorist Use of Chemical and Biological Weapons (MIT Press, 2000) and the author of Scourge: The Once and Future Threat of Smallpox and War of Nerves: Chemical Warfare from World War I to Al-Qaeda.